



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,682	07/21/2003	Joseph A. King	5783	5313
7590		09/20/2007		
Carl L. Johnson				
Jacobson And Johnson				
Suite 285				
One West Water Street				
St. Paul, MN 55107-2080				
			EXAMINER	
			TSOY, ELENA	
			ART UNIT	PAPER NUMBER
			1762	
			MAIL DATE	DELIVERY MODE
			09/20/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/623,682  
Filing Date: July 21, 2003  
Appellant(s): KING ET AL.

**MAILED**  
**SEP 20 2007**  
**GROUP 1700**

---

Carl L. Johnson  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed December 26, 2006 appealing from the Office action mailed August 11, 2006.

Art Unit: 1762

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

Art Unit: 1762

**(8) Evidence Relied Upon**

KR 89002848 B	JONG	08-1989
3,866,568	MINAMI	02-1975
5,567,539	TAKAHASHI ET AL	10-1996
JP 78020780 B	MIODA ET AL	06-1978
JP 78010390 B	MIODA ET AL	04-1978
5,820,927	OEHLER ET AL	10-1998
6,365,169	ROSENBLATT	04-2002
JP 01301291A	HAYASHI	12-1989
JP 51067462A	JAPAN VILENE CO LTD	06-1976
4,152,272	YOUNG	05-1979
6,238,448	ROUSE ET AL	05-2001

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

The Examiner Note:

(A) since the specification as filed does not provide a *definition* for the term “drying”, the term has been interpreted as broad as one of ordinary skill in the art would interpret the term, namely, as any known technique to convert an adhesive from a liquid state to a solid state to fix one object to another, i.e. not confining to removal of a solvent, but also as cooling of hot-melt adhesive or curing a liquid curable adhesive. See, for example, US 3,866,568 to Minami which uses the term “drying” for cooling or setting a hot molten adhesive (See column 1, lines 14-17, 58-60; column 2, lines 6-10); US 5,567,539 to Takahashi et al which also uses the term “drying” for cooling or setting a hot molten adhesive (See column 20, lines 15-22); US 20060127635 to Colson et al using terms “**drying**”, “**cooling**” and “**setting**” *interchangeably* for a hot molten adhesive. (See P154-156 and Claim 11); JP 0130129 to Hayashi teaching quick-drying hot molten adhesive (See Abstract); JP 51067462 that uses the term “drying” for “**curing**” a molten hot-melt curing

Art Unit: 1762

adhesive (See Abstract); and US 6,238,448 to Rouse et al using the term “drying” for “**curing**” (See column 10, lines 2-3) an epoxy-containing adhesive (See column 9, lines 67).

Moreover, the specification as filed uses a die coater for applying an adhesive (See Fig. 5 and Fig. 8). As is well known in the art, the die coater is used for extruding either a hot melt or a slurry. Thus, the specification does not exclude hot-melt adhesive. Note that the specification uses the term drying only while describing a method of Fig. 1 on page 10. However, while describing other seven methods (Figs. 2-8), the specification does not mention any technique of treating the applied adhesive. In other words, any known technique is implied for treating the adhesive.

(B) since the specification as filed does not provide a *definition* for the term “solid structure”, the term has been given its plain meaning, and as it is ordinarily used in the art, consistent with the specification, namely, any rigid or flexible solid structure. See, for example, US 4,152,272 to Young (See column 8, lines 5-6).

Claims 8, 9 are rejected under 35 U.S.C. 102(b) as being anticipated by KR 8902848 and applied as evidence Minami (US 3,866,568)/Takahashi et al (US 5,567,539).

KR 8902848 discloses a method of making a sterilizing and water-cleaning filter comprising applying an adhesive to the inner side of permeable upper and lower nonwoven fabrics 11' and 11'' (claimed step a of applying an adhesive to a web of material); filling a silver treated activated carbon (claimed metal ion yielding material in particle form) and untreated activated carbon *alternately* between the upper and lower nonwoven fabrics 11' and 11'' (See **Abstract**); and fusion-bonding the adhesive-coated side to the activated carbon (claimed step b of applying the metal ion yielding material in particle form to the adhesive on the web) to fix the activated carbon to the web arranging (See Translation, page 4, lines 16-22).

It is the Examiner's position that that the fused adhesive is dried *inherently* (claimed step c), since it is well known in the art that fusible or hot melt adhesive is dried after fusion by cooling or setting to provide strong bondage to a substrate, as evidenced by Minami (See column 1, lines 14-18; column 2, lines 6-8; column 4, lines 26-27) and Takahashi et al (See column 20, lines 15-22).

Claims 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 780100390.

JP 780100390 discloses a method of making a sterilizing element for water purification vessel (claimed step of forming the sterilizing element into article) comprising coating a substrate with a resin adhesive agent, applying a water-insoluble silver salt (claimed particle form) on the

Art Unit: 1762

adhesive agent, then curing (claimed setting) the adhesive to adhere the silver salt to the substrate (See Abstract). Note that a film shaped device prepared by bonding silver-salt particles to an adhesive 22 applied to a flexible substrate 21 (See Fig. 6) is used for forming a water filtering system (See Figs. 3, 5; Translation, pages 7-8).

It is the Examiner's position that "curing" involves "drying" whether the adhesive is hot-melt adhesive, or solvent based (See above the Examiner's note).

Even if it could be argued that curing does not include drying in JP 780100390, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solvent-based curable adhesive so that curing would involve drying off the solvent.

As to claim 10, it is well known in the art that AgCl is used as a water-insoluble silver salt in water purification systems. As the adhesive (22), epoxy resin adhesives are used, but it goes without saying that, besides these, *any* adhesive can be used as long as it exhibits good affinity with the flexible resin substrate to be used. See page 9.

Claims 8, 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 78020780.

JP 78020780 discloses a sterilizing element for water purification apparatus (claimed filter) comprising adhering a water-insoluble silver salt containing powder to a flexible film with a epoxy resin binder (See Abstract).

It is the Examiner's position that "adhering" involves "drying" whether the adhesive is hot-melt adhesive, or solvent based.

Even if it could be argued that curing does not include drying in JP 780100390, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used solvent based curable adhesive so that adhering would involve drying.

Claims 8, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over KR 8902848 in view of Oehler et al (US 5,820,927).

KR 8902848 does not expressly show that solvent-based adhesives may be used in making water filters so that securing activated carbon to substrate surface involves drying the adhesive by removing a solvent after applying the activated carbon.

Oehler et al teach that a solution of adhesive such as ethylene vinyl acetate (See column 4, lines 19-20) may be used in making water filters so that securing activated carbon to substrate surface involves drying the adhesive by removing a solvent after applying the activated carbon (See column 4, lines 39-45). In other words, Oehler et al teach that an adhesive solution of ethylene vinyl acetate is suitable for securing activated carbon to substrate in making water filters. It is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution of adhesive such as ethylene vinyl acetate in KR 8902848 instead of hot melt adhesive with the expectation of providing the desired securing of the activated carbon, since Oehler et al teach that an adhesive solution of ethylene vinyl acetate is suitable for securing activated carbon to substrate in making water filters.

Claims 8-10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over KR 8902848/JP 780100390/JP 78020780/ in view of Rosenblatt (US 6,365,169).

The cited prior art is applied here for the same reasons as above. As was discussed above, KR 8902848 teaches that (any) adhesive can be used for fusing activated carbon to a substrate. JP 78020780 teaches that silver-salt-containing powder (21) is bonded to a substrate 23 by means of epoxy resin adhesive (22) in such a way as to expose the powder as shown at Fig. 6 (See page 7, lines 10-16). JP 780100390 teaches that as the adhesive (22), epoxy resin adhesives are used, but any adhesive can be used as long as it exhibits good affinity with the flexible resin substrate to be used. JP 780100390 further teaches that the adhesive (22) is applied to a substrate by roller printing or brush coating, then silver chloride particles (23) are sprinkled over the adhesive (22), and; using a Mylar film (24) and a pressure roller (25), the silver chloride particles (23) are pushed into the uncured adhesive (22), thus attaching the aforesaid silver chloride particles (23) to the resin adhesive by pressure, and, thereafter, excess silver chloride particles (23) are eliminated by applying vibration to them, and the adhesive is hardened at 100 °C for 2 hours, thereby bonding the silver chloride particles (23) securely (See page 9).

The cited prior art fails to teach that polyvinyl alcohol (PVA) can be used as an adhesive (Claim 10), which is applied to a substrate by spraying (Claim 12).

Rosenblatt teaches that a curable PVA (i.e. PVA together with a curing agent) solution (See column 3, lines 39-42) may be used for fixing iodine to a substrate by spraying first the PVA solution to the substrate (See column 3, lines 39-40) then spraying iodine over partially dried insolubilized PVA (See column 6, lines 9-16) to make water filters (See column 8, lines 11-12). In other words, Rosenblatt is applied to show that PVA adhesives are *suitable* for making water filters and can be applied by spraying and cured together with antimicrobial component.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution of a curable PVA as an adhesive in the cited prior art for applying the solution to a substrate by spraying, partially insolubilizing PVA, then applying antimicrobial particles to a partially insolubilized PVA followed by complete curing with the expectation of providing the desired fixed particles on the substrate since Rosenblatt teaches that a curable PVA adhesive can be used in making water filters and the cited prior art references do not limit their teaching to particular adhesives, and the cited prior art references teach that antimicrobial particles can be applied to an uncured adhesive.

It is the Examiner's position that placement of the filter of the cited prior art in view of Rosenblatt into a body of water would enable the structure to adhesively support the water treatment material thereon in a condition that maintains a water concentration of metal ions less than 1000 parts per billion (ppb) since it is produced by a method identical or substantially identical processes to that of claimed invention.

Claim 10 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 78020780.

JP 78020780 discloses a method of making a sterilizing element for a water purification apparatus (claimed step of forming the sterilizing element into article) (See Abstract) comprising adhering (claimed allowing the resin to set) a water-insoluble silver chloride containing powder to a flexible film with epoxy resin binder (See Abstract). Translation of JP 78020780 shows that the silver-salt-containing powder (21) is bonded to a substrate 23 by means of adhesive (22) in such a way as to expose the powder as shown at Fig. 6 (See page 7, lines 10-16). Clearly, to expose the



powder as shown at Fig. 6, the powder should be adhered to applied adhesive; **or** it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied an adhesive to a substrate then a silver-salt-containing powder in JP 78020780 (JP 53020780) with the expectation of providing the desired exposed powder.

**(10) Response to Argument**

**1. The references of KR 8902848, the reference of Minami and the reference of Takahashi et al. each do not teach the step of applying a metal ion yielding material in particle form to the adhesive on the web.**

(A) The Appellant submits that the references of Minami and Takahashi et al. each do not teach the step of applying metal ion yielding materials in particle form to an adhesive on a web as called for in Appellant's independent method claim 8. Even though the Examiner explained on page 5, lines 3-5 of the Office Action dated April 11, 2006 that "...each of Minami and Takahashi et al is applied not for teaching the step of applying metal ions yielding materials in particle form to an adhesive on a web, but as evidence to confirm the Examiner's interpretation of the term "drying" of holt [hot] metal adhesive", Applicants continue arguing that claims 8 and 9 stand rejected under 35 U.S.C. 102(b) as being anticipated by *each* of references KR 8902848, Minami (U.S. Patent No. 3,866,568) and the reference of Takahashi et al. (U.S. Patent No. 5,567,539).

The Examiner respectfully disagrees with this argument. The Examiner does not understand from the Applicants remarks why the Examiner could not cite Minami and Takahashi et al as evidence. It seems that the Applicants meant that 102 type rejection could not made over multiple references. However, it is well settled that a 35 U.S.C. 102 rejection over *multiple* references has been held to be proper when the extra references are cited to: (a) prove the primary reference contains an "enabled disclosure;" (b) **explain the meaning of a term used in the primary reference**; or (c) show that a characteristic not disclosed in the reference is inherent (See MPEP 2131.01, Multiple Reference 35 U.S.C. 102 Rejections). Since Minami/Takahashi et al are applied to **explain the meaning of a term used in the primary reference of KR 8902848**, the 35 U.S.C. 102 rejection over *multiple* references is proper.

(B) Appellant submits that the KR 8902848 reference does not anticipate Appellant's independent method claim 8 as the reference KR 8902848 does not describe with sufficient clarity and detail the use and function of the adhesive so as to anticipate the step of "..., applying a metal ion yielding material in particle form to the adhesive on the web" of Appellant's independent method claim 8. Under *In re Oelrich*, the mere disclosure of an adhesive coating the inner side of the nonwoven fabrics is not sufficient to lead to the conclusion that the silver-added active carbon and untreated active carbon of the KR 8902848 reference are actually applied to the adhesive. The KR 8902848 reference actually teaches away from the application of the active carbons to the adhesive through the disclosure that the mesh formed by KR 8902848's fabrics 11' and 11" already functions to prevent the active carbon from escaping or releasing from KR 8902848's filter 8. The relevant part of the translated text recited by the Examiner "When forming the filter 8, one side of the non-woven fabric 11' and 11" is coated with an adhesive, and the adhesive-coated side is fusion bonded to the activated carbon to fix the activated carbon" (See page 4, lines 20-22)" does not anticipate the Appellant's step of applying of metal ion yielding material in particle form to the adhesive. It is respectfully submitted that the reference of KR 8902848 is unclear whether the activated carbons are fusion bonded to the adhesive or the non-woven fabric itself. It is respectfully submitted that it is more likely that the reference KR 8902848 teaches that the activated carbons are fusion bonded to the non-woven fabric itself and not to the adhesive as the generally adhesion properties of an adhesive would alleviate the need for fusion bonding if KR 8902848's activated carbon were applied directly to KR 8902848's adhesive. In further regards to the KR 8902848 reference, it is respectfully noted that although the reference KR 8902848 (in the abstract) discloses in parentheses that the inner side of the nonwoven fabrics is coated with adhesive, the Appellant respectfully submits that the adhesive cited in KR 8902848 is for bonding KR 8902848's sheets of fabrics 11' and 11".

The Examiner respectfully disagrees with this argument. First, KR 8902848 does teach in the **Abstract** a step of filling (claimed applying) a silver treated activated carbon (claimed metal ion yielding material in particle form) and untreated activated carbon *alternately* between the upper and lower nonwoven fabrics 11' and 11", which are coated on *inner side only* with an adhesive. Second, placing an adhesive-coated web onto spread particles also reads on Appellant's step of applying of metal ion yielding material in particle form to the adhesive, because claim

Art Unit: 1762

language does not recite how exactly the particles are applied, and claim does not recite any negative limitation that the particles should not be placed onto the adhesive-coated web. Third, the relevant part of the translated text recited by the Examiner "When forming the filter 8, one side of the non-woven fabric 11' and 11" is coated with an adhesive, and *the adhesive-coated side is fusion bonded to the activated carbon to fix the activated carbon*" (See USPTO Translation, page 4, lines 20-22)" describes **expressly** with sufficient clarity and detail the use and function of the adhesive as to **to fix** the activated carbon (claimed metal ion yielding material in particle form) to the adhesive-coated side of the non-woven fabric not to bond sheets of fabrics 11' and 11. Forth, the Appellants statement "generally adhesion properties of an adhesive would alleviate the need for fusion bonding" is incorrect because in case of hot melt adhesives fusion bonding is required.

Thus, KR 8902848 does anticipate the Appellant's step of applying of metal ion yielding material in particle form to the adhesive.

**2. The reference of JP 78010390 does not teach the method of applying a water treatment composition to an article of Appellant's claims 8 and 9 or the method of making an article for in situ water treatment of Appellant's claim 10.**

**a. The reference of JP 78010390 does not teach the steps of applying an adhesive to a web of material, applying a metal ion yielding material in particle form to the adhesive on the web, or forming the particle containing web into an article for use in water purification.**

The Appellant submits that the reference JP 78010390 does not teach the steps of Appellant's method claims 8 and 9. JP 78010390 instead teaches and shows (in Figure 6) the application of resin adhesive 22 to a flexible substrate 21. The Appellant submits that JP 78010390's flexible substrate 21 is not a web of material. Further note that JP 78010390's resin adhesive 22 and flexible substrate 21 are eventually secured (simultaneously) to JP 78010390's meshed porous resin frame 10. (See Figure 3 of JP 78010390's). It is submitted that JP 78010390's meshed porous resin frame 10 supports JP 78010390's flexible substrate thereon or therebetween during use as shown in Figures 3 and 4 of JP / 78010390. It is for the above reasons that the Appellant respectfully submits that the reference of JP 78010390 does not teach the step of applying an adhesive to a web of material, the step of applying a metal ion yielding material in

particle form to the adhesive on the web, or the step of forming the particle containing web into an article for use in water purification and that Appellant's independent claims 8 and 9 are allowable over the JP 78010390 reference.

The argument is unconvincing. First of all, since the specification as filed does not provide a *definition* for the term "solid structure", the term has been given its plain meaning, and as it is ordinarily used in the art, consistent with the specification, namely, any rigid or flexible solid structure. See, for example, US 4,152,272 to Young (See column 8, lines 5-6). Second, claims do not recite that the web material of claim 8 and the solid structure of claim 10 should not be flexible. Note also that the Appellant's solid structure also includes a flexible structure (See Fig. 2).

**b. The reference of JP 78010390 does not teach the steps of applying an adhesive to the water insoluble solid structure, forming the solid structure into an article for placement into a body of water, or forming the structure into an article for placement into a body of water.**

(A) The Appellant submits that the reference JP 78010390 does not teach the step of "... applying the adhesive to the water insoluble solid structure..." The reference of JP 78010390 instead teaches and shows (in Figure 6) the application of a resin adhesive 22 to a flexible substrate 21. The Appellant respectfully submits that JP 78010390's flexible substrate 21 is not a solid structure.

The argument is unconvincing because for the reasons discussed above.

(B) The Appellant submits that the reference JP 78010390 also does not teach the above- mentioned step of "...forming the structure into an article for placement into a body of water ..." Reference 78010390 instead teaches the simultaneously securement of the flexible substrate 21 containing the resin adhesive 22 and silver salt particles 23 to JP 78010390's meshed porous resin frame 10. (See Figure 3 of JP 78010390's). JP 78010390's flexible substrate is supported on or between JP 78010390's meshed porous resin frame 10 during use as shown in Figures 3 and 4 of JP 78010390. It is for the above reasons that Appellant's independent method claim 10 is allowable over the JP 78010390 reference.

The argument is unconvincing because neither specification nor claim 10 defines "article" as not being a structure of JP 78010390.

**3. The reference of JP 78020780 does not teach the step of allowing the adhesive to dry to secure the metal ion yielding material to the web of material.**

(A) The Appellant disagrees with the Examiner's comments that "...adhesive of any kind should be dried..." It is submitted that the main purpose of an adhesive is to function to adhere one article to another article. Although an adhesive can adhere through a drying process, it is respectfully submitted that an adhesive can also adhere without having to dry. Note for example adhesives that adhere under water.

The argument is unconvincing. First of all, water filter is made *before* placing it into water. Secondly, epoxy resin always cures, i.e. dries with the time, because the epoxy groups are reactive in air or water.

(B) Although the Appellant agrees that "... pending claims must be given the broadest reasonable interpretation consistent with the specification,..." the Appellant submits that the Appellant's specification does not support the Examiner's interpretation of the term "dry" as being interchangeable with the term "cure" or "cured." In regards to the Examiner's comments that the Appellants' specification does not define the term "drying" as being NOT interchangeable with the term "cured," the Appellant respectfully submits that it would be an undue burden to require an Appellant to provide a laundry list of terms in the specification that are not interchangeable with terms used in the claims. It is further respectfully submitted that in situations in which a common term found in the claim is not specifically define in the specification, use of a dictionary has been held to be proper to help determine the common meaning of the term. (See for example American Permahedge, Inc. v. Barcana, Inc., 41 USPQ 2d 1614, 1616-17 (Fed. Cir. 1997)).

The argument is unconvincing because if the specification provided a clear definition that the term "drying" of claim 8 and "setting" of claim 10 involves "removing a solvent" there would be no need for the laundry list.

(C) The Appellant submits that the term "dry" is defined on page 248 of WEBSTER'S UNIVERSAL COLLEGE DICTIONARY as: "1. free from moisture; not moist; not wet .... 14. dehydrated ... 26. to make dry; free from moisture: to dry the dishes. - v.i. 27. to become dry; lose moisture ..." (Take from WEBSTER'S UNIVERSAL COLLEGE DICTIONARY, © 1997, page 248, by Random House, Inc. New York, New York). The Appellant has enclosed a copy of page

Art Unit: 1762

248 of WEBSTER 'S UNIVERSAL COLLEGE DICTIONARY with the present response. It is respectfully submitted that the above definition for the term "dry" involves the removal of moisture or being free of moisture. It is noted however that WEBSTER 'S UNIVERSAL COLLEGE DICTIONARY does not define the term "dry" or "drying" as being interchangeable with the term "cure" or "cured." Further note that WEBSTER 'S UNIVERSAL COLLEGE DICTIONARY does not even provide any reference(s) to the term "cure" or "curing" in its definition for the term "dry." (See page 248 of WEBSTER 'S UNIVERSAL COLLEGE DICTIONARY.)

The Examiner respectfully disagrees with this argument. First of all, the specification as filed does not describe whether adhesives are solvent based or hot-melt adhesives. Secondly, if claimed drying should be interpreted as removing water, Appellant means that removing an **organic solvent** is not drying?

As was discussed before, the term "drying" should be interpreted as broad as one of ordinary skill in the art would interpret the term, i.e. not confining to removal of water but to removal of any solvent, or cooling or curing.

(D) The Appellant argues that reference of Rouse et al does not support the use of the terms "drying" and "curing" interchangeably in the Appellant's filed of art because the reference of Rouse et al. is directed to the art of comminuting devices and more specifically grinding stones (column 1, lines 13-25). The Appellant's field of art is directed to water treatment mechanisms. It is respectfully submitted that the art of grinding stones is unrelated to the art of water treatment mechanisms.

The argument is unconvincing because epoxy adhesives would have the same inherent properties no matter where they are used.

4. **It would not have been obvious to combination of the references of KR 8902848 and Oehler et al. as Oehler et al.'s use of ethylene vinyl acetate teaches away from KR 8902848's formation of purification filter.**

The Appellant disagrees with the Examiner's above holding as the use of Oehler et al.'s ethylene vinyl acetate teaches away from the formation of KR 8902848's purification filter. Referring to Figures 3, 4, and 6 of the KR 8902848 reference, note that the KR 8902848 reference

Art Unit: 1762

shows for a filter 8 comprising a pair of non-woven fabrics 11' and 11" bonded to each other on their edges to form a pocket for supporting untreated activated carbons 12" and silver-added activated carbons 12' therein. Referring to the disclosure on page 4, lines 24-26 of the Appellant's translation of the KR 8902848 reference, further note that the KR 8902848 reference specifically teaches that: "... the mesh of the fabrics is finer than the activated carbon, which thereby is prevented from being released." (Emphasis added.) In regards to Oehler et al.'s use of the ethylene vinyl acetate, the Appellant notes that Oehler et al. specifically teaches that the ethylene vinyl acetate is used to form an adhesive layer within the pores of Oehler et al.'s foam support body 20 in order to impregnate Oehler et al.'s granular particles 30 within the pores of Oehler et al.'s foam support body 20. (Column 4, lines 14-45.) In view of the above, the Appellant submits that the use of Oehler et al.'s ethylene vinyl acetate in KR 8902848 is not proper as KR 8902848 specifically calls for the mesh of KR 8902848's fabrics as being finer than the activated carbon thereby preventing the activated carbon from passing through.

The Examiner respectfully disagrees with this argument. Oehler et al. teach that an adhesive solution of ethylene vinyl acetate is suitable for securing activated carbon to a substrate in making water filters. It is held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution of adhesive such as ethylene vinyl acetate in KR 8902848 instead of hot melt adhesive with the expectation of providing the desired securing of the activated carbon, since Oehler et al. teach that an adhesive solution of ethylene vinyl acetate is suitable for securing activated carbon to a substrate in making water filters.

One of ordinary skill in the art would have a reasonable expectation of success in using ethylene vinyl acetate solution for fixing activated carbon to a surface of a substrate in KR 8902848 because the adhesive properties of the ethylene vinyl acetate solution would not depend on the intended use of the adhesive, i.e. the adhesive ethylene vinyl acetate solution would fix whether it is the surface of the pores of the substrate or the outer surface of the substrate.

5. **The combination of the references of the KR 8902848 and Minami or Takahaski et al in view of the reference of Rosenblatt each do not teach the step of applying a metal ion yielding material in particle form to the adhesive on the web or the step of allowing the adhesive to dry to secure the metal ion yielding material to the web of material or the step of allowing the adhesive to set to thereby secure the water treatment material to the solid structure.**

*Note that this statement is incorrect: it should read "The combination of the references of the KR8902848/JP 780100390/JP 78020780/ in view of Rosenblatt in view of the reference of Rosenblatt*

The Appellant disagrees with the Examiner's statement on page 3, lines 15-18 of the Office Action dated April 11, 2006, "Rosenblatt teaches curing (setting) of his PVA with iodine and other antimicrobial components in order to secure the iodine and other antimicrobial components to Rosenblatt's substrate (See column 8, lines 9)." Rosenblatt's column 8, lines 9-12 does not teach the curing or setting of Rosenblatt's PVA with iodine to Rosenblatt's substrate. The reference of Rosenblatt does not call for the application of iodine, which Rosenblatt uses as a disinfectant, to the PVA located on Rosenblatt's substrate in particle form.

The Examiner agrees with the Appellant that Rosenblatt does not teach applying iodine in a particle form. However, Rosenblatt teaches that a curable PVA can be used for fixing antimicrobial components to a substrate for the use in water filters by spraying a PVA/curing agent solution to a substrate and then applying antimicrobial component to a partially insolubilized PVA.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution of a curable PVA (i.e. PVA together with a curing agent) as an adhesive in the cited prior art for applying the solution to a substrate by spraying, partially insolubilizing PVA, then applying antimicrobial particles to a partially insolubilized PVA followed by complete curing with the expectation of providing the desired fixed particles on the substrate since Rosenblatt teaches that a curable PVA adhesive can be used in making water filters and the cited prior art references do not limit their teaching to particular adhesives, and the cited prior art references teach that antimicrobial particles can be applied to an uncured adhesive.



**6. The reference of JP78020780 does not teach the step of applying the water treatment material to the adhesive on said solid structure of claim 10.**

The Appellant submits that it is not clear or obvious from the teaching of JP 78020780 to have applied an adhesive to a substrate and then a silver- salt-containing powder in order to expose the powder. Since the reference of JP 78020780 teaches alternative methods of applying a silver- salt- containing powder to a substrate through the use of an adhesive (i.e. an epoxy resin) without first applying the adhesive to the substrate, the Appellant respectfully submits that the teaching of JP 78020780 does not anticipate Appellant's independent claim 10.

The Examiner respectfully disagrees with this argument. It is held that patents are relevant as prior art for all they contain. See *Celeritas Technologies Ltd. v. Rockwell International Corp.*, 150 F.3d 1354, 1361, 47 USPQ2d 1516, 1522-23 (Fed. Cir. 1998) (The court held that the prior art anticipated the claims even though it taught away from the claimed invention. "The fact that a modem with a single carrier data signal is shown to be less than optimal does not vitiate the fact that it is disclosed."). NONPREFERRED EMBODIMENTS CONSTITUTE PRIOR ART. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. See MPEP 2123. Therefore, the alternative methods of applying a silver-salt- containing powder to a substrate through the use of an adhesive (i.e. an epoxy resin) without first applying the adhesive to the substrate cannot overcome anticipation rejection over JP 78020780.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 1762

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Elena Tsoy, Ph.D.  
Primary Examiner  
Art Unit 1762  
September 6, 2007

ELENA TSOY  
PRIMARY EXAMINER

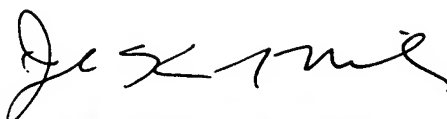


Conferees:

Timothy Meeks



Jennifer Kolb-Michener



JENNIFER MICHENER  
QUALITY ASSURANCE SPECIALIST